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Dear Van

It was nice of you to write to me about ZYGON, but I'm most unenthusiastic about that sort of thing. In any case, I'd already said no.

As to the Central Dogma, the trouble is that few people understand exactly what I meant. It does not say that you cannot translate from RNA to DNA. On that point it is silent.

It does say that the cell cannot translate backwards, that is from either DNA or RNA to protein. "Translate" means here exactly what it means in the forward direction. The residue by residue substitution of the sequence of symbols in one language for the corresponding sequence in the other, as given by some set of coding rules. Of course, a back translation, on the present forward code, would be ambiguous, but that is not an essential objection. The Central Dogma states, in effect, that the mechanism for this detailed back-translation does not exist in the cell. It does not state, as poor misguided Barry Commoner seems to think, that changes in the proteins making up the machinery of protein synthesis cannot produce errors in translation in the forward direction. Nobody ever said this, and when I invented the term Central Dogma I was aware of this possibility (which is implicit in the adaptor hypothesis) and tried to frame my definition to include this. Obviously I failed! But you must realize that Barry Commoner has been behaving in a ridiculous manner for years, and that is why nobody thinks it worth while to reply to him.

Yours sincerely

F.H.C. Crick